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I. L. VANSANT.

APPARATUS FOR LOADING OR UNLOADING WAGONS.

(Application filed June 27, 1899.)

(No Model.)

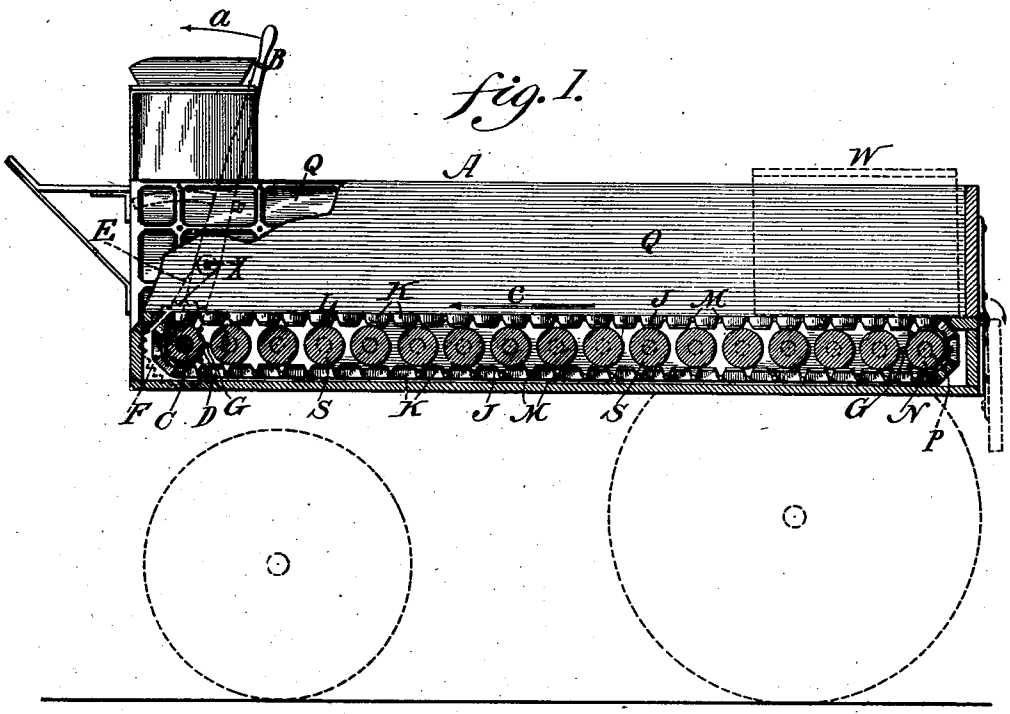


fig. 1.

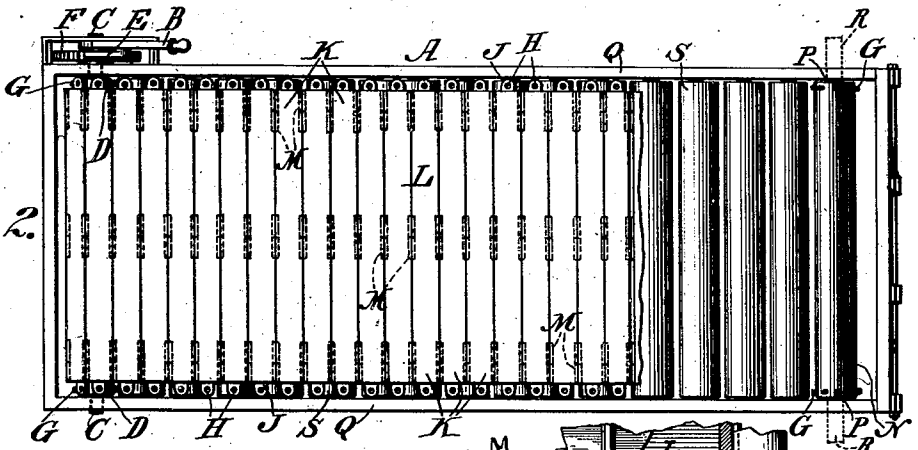


fig. 2.

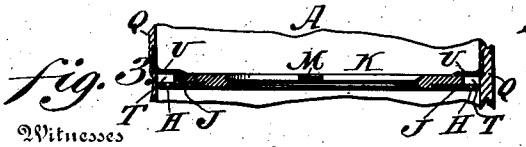


fig. 3.

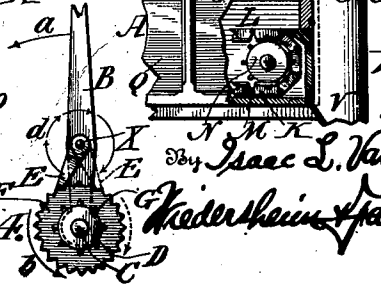


fig. 4.

fig. 5.

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APPARATUS FOR LOADING OR UNLOADING WAGONS.

SPECIFICATION forming part of Letters Patent No. 646,671, dated April 3, 1900.

Application filed June 27, 1899. Serial No. 722,011. (No model.)

To all whom it may concern:

Be it known that I, ISAAC L. VANSANT, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Apparatus for Loading or Unloading Wagons, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to an improved apparatus for loading and unloading wagons, cars, &c.; and it consists of mechanism for imparting motion to an endless apron or conveyer, which forms the bottom of the wagon or car.

It also consists in so constructing the conveyer that no open spaces exist on the upper surface of the same between the strips which form part of the conveyer, so that should a load consist of sand or other fine particles there can be no possibility of the same escaping through the joints between the strips of the conveyer.

It further consists of novel details of construction, all as will be hereinafter fully set forth, and particularly pointed out in the claims.

Figure 1 represents a partial side elevation and partial vertical section of an apparatus embodying my invention. Fig. 2 represents a plan view of certain of the parts seen in Fig. 1. Fig. 3 represents a partial side elevation and partial vertical section of certain detached portions of the device. Fig. 4 represents a side elevation of the mechanism employed to operate the conveyer. Fig. 5 represents a partial side elevation and partial vertical section of the rear end of a coal-wagon provided with a portion of the device embodying my invention.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates the body of a wagon, which may be mounted on running-gear of any suitable description.

B designates a lever loosely fitted on the shaft C of the forward roller D, so as to rock on said shaft without imparting motion thereto.

Pivoted to the lever B is a dog E, which engages the teeth of a ratchet-wheel F, firmly secured to the shaft C, it being apparent that when said lever B is moved in the direction indicated by the arrow *a* in Figs. 1 and 4 the dog E will cause the ratchet-wheel F to rotate in the direction indicated by the arrow *b* in said Fig. 4, and consequently impart motion in a similar direction to the forward roller D, which is provided with radial projections G on both its ends, said projections G being adapted to engage openings H in the plates J, which project beyond the ends of the strips K of the conveyer or bottom L of the body A, so that the rotary motion imparted to the forward roller D will transmit motion to the bottom L of the wagon and cause said bottom to move in the direction indicated by the arrow *c* in Fig. 1 when the ratchet-wheel F is being rotated in the direction indicated by the arrow *b* in Fig. 4. The strips K of the bottom L are connected together by hinges M to permit the former to pass around the rollers D and N, it being noted that said roller N is also provided with radial projections G, which engage the openings H in the plates.

It is evident that, if desired, the shaft P of the roller N may project beyond the sides Q of the body A of the wagon, as illustrated in dotted lines at R in Fig. 2, so that said shaft P may, if desired, be rotated by mechanism similar to that described in connection with the roller D or by cranks.

S designates rollers journaled in the sides Q of the body A, said rollers being located between the rollers D and N for the purpose of preventing the conveyer or bottom L from sagging, it being apparent that said rollers S need not be provided with projections G.

The gaps or spaces T (seen in Fig. 3,) which exist between the ends of the strips K and the sides Q of the body A of a wagon, may, if desired, be covered by inwardly-projecting flanges formed by angle-irons U, to prevent fine particles—such as sand, sawdust, fine coal, &c.—from dropping into said gaps, and, if desired, the strips K may be of sufficient length to cover the plates J, in which case the angle-irons U may be dispensed with.

In Fig. 5, V designates a chute secured to the rear of the body A and adapted to direct the contents of the latter to any desired spot.

The operation is as follows: When it is desired to load a wagon equipped with my in-

vention, the articles, as boxes or other packages, are placed in the rear portion of the wagon, as indicated by dotted lines at W in Fig. 1, and the lever B is moved in the direction indicated by the arrow *a* in Figs. 1 and 4, thereby causing the bottom L of the wagon to move in the direction indicated by the arrow *c* in Fig. 1, and thus cause the box to move in unison with said bottom L. The lever B is then returned to its normal position, as seen in Fig. 1, and the dog E rides freely over the teeth of the ratchet-wheel F, so as to engage a tooth of said wheel in order to further advance the bottom L when said lever B is again moved in the direction indicated by the arrows *a*. When the bottom L has been advanced sufficiently to receive another package, the latter is placed thereon, and the lever B is again operated, so as to cause the contents placed on the bottom L to be still further advanced or moved toward the front or seat of the wagon. This operation may be continued until the wagon is entirely loaded.

When it is desired to unload a wagon provided with my device, the dog E is rotated on its axis X and in the direction indicated by the arrows *d* in Fig. 4, thus causing said dog E to assume the position indicated by dotted lines in said Fig. 4, it being apparent that when the lever B is moved in a direction opposite to that indicated by the arrow *a* in Figs. 1 and 4 said lever will cause the dog E to rotate the ratchet-wheel F in the direction indicated by the dotted arrow in said Fig. 4, and consequently cause the bottom L of the wagon to move in a direction opposite to that indicated by the arrow *c* in Fig. 1, and thus unload the contents of the wagon.

It will of course be apparent that if desired I may construct the end rollers over which the apron passes of hexagonal or other polygonal shape, and so dispense with the pins G.

In practice I employ cranks or handles, which are applied to the axle R, (seen dotted at the right of Fig. 2,) for the purpose of unloading, it being understood that the mechanism seen at the left of Fig. 1 may be employed, if desired; but it may be preferable in some instances to apply said cranks instead.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a wagon-body, rollers journaled at either end thereof, an endless apron passing over said rollers, interlocking devices common to said rollers and to said apron, an elongated shaft on one of said rollers, a ratchet-wheel on said shaft, a lever loosely mounted on said shaft, and a dog carried by said lever and adapted to engage said ratchet-wheel, so as to actuate the same in either direction.

2. The combination of a wagon-body, toothed rollers at the ends thereof, means for rotating one of said rollers, an endless apron trained around said rollers, and laterally-projecting apertured plates secured to the ends of the strips composing said apron to be engaged by said toothed rollers.

3. The combination of a wagon-body, an endless apron in the bottom thereof, means for actuating said apron, and inwardly-projecting flanges on the inner sides of the wagon-body overlapping the side edges of said apron.

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